

MIMOSA WEBWORM, HOMADAULA ANISOCENTRA MEYRICK

(LEPIDOPTERA: PLUTELLIDAE) 1/

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SYNONYMY: HOMADAULA ANISOCENTRA MEYRICK 1922:47.
HYPONOMEUTA USUGURONIS MATSUMURA 1931:1098.
HOMADAULA ALBIZZIAE CLARKE 1943:206.
PARAPRAYS ANISOCENTRA (MEYRICK), FRIESE 1962:302.
HOMADAULA ANISOCENTRA MEYRICK, CLARKE 1968:228.

INTRODUCTION: THE MIMOSA WEBWORM IS NATIVE TO CHINA AND JAPAN. SPECIMENS FROM CHINA WERE FIRST DESCRIBED IN 1922 BY MEYRICK AS HOMADAULA ANISOCENTRA. IN 1940 LARVAE WERE FOUND FEEDING ON MIMOSA TREES IN WASHINGTON, D. C., AND THE SPECIES WAS DESCRIBED IN 1943 BY CLARKE AS HOMADAULA ALBIZZIAE. TODAY THE MOTH IS FOUND OVER MOST OF THE EASTERN UNITED STATES.

DESCRIPTION: THE ADULT (FIG. 1) IS SMALL (WING EXPANSE ABOUT 10-14 MM), LUSTROUS GRAY, WITH CONSPICUOUS BLACK SPOTS SPARSELY DISTRIBUTED ON THE FOREWINGS. HINDWINGS ARE UNIFORMLY UNMARKED DARK GRAY. THE FULL GROWN LARVA (FIG. 2) IS GRAY TO DARK BROWN, WITH 5 WHITE LONGITUDINAL STRIPES THE LENGTH OF ITS BODY (LENGTH ABOUT 12-16 MM). THE DARK GROUND COLOR MAY, ON OCCASION, BE DIFFUSED WITH PINK AND INTERSPERSED WITH WHITE MARKINGS TO GIVE A MOTTLED EFFECT. THE PUPA IS YELLOW-BROWN, ENCLOSED WITHIN A SILKEN, WHITE COCOON (LENGTH ABOUT 6 MM).

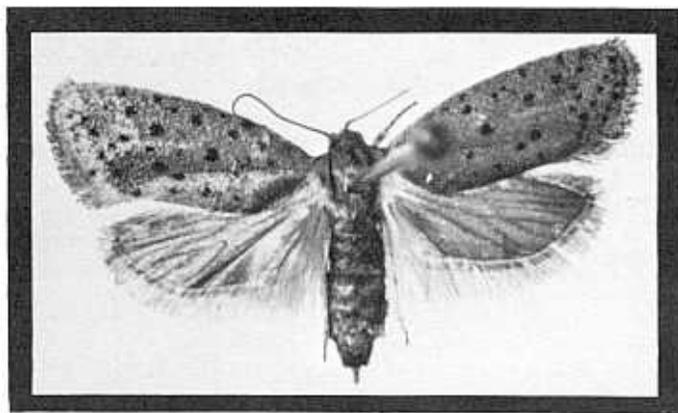
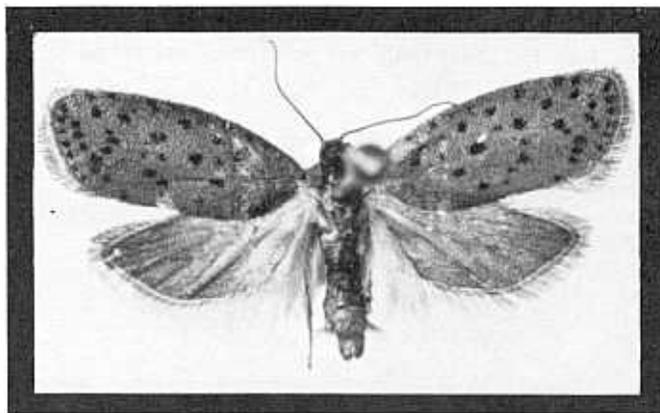


FIG. 1. ADULTS. A) MALE. B) FEMALE. (MARYLAND: PRINCE GEORGES CO., GLENRIDGE, J. F. G. CLARKE, COLL. 30-V-67 AND 7-VI-66 RESPECTIVELY.)

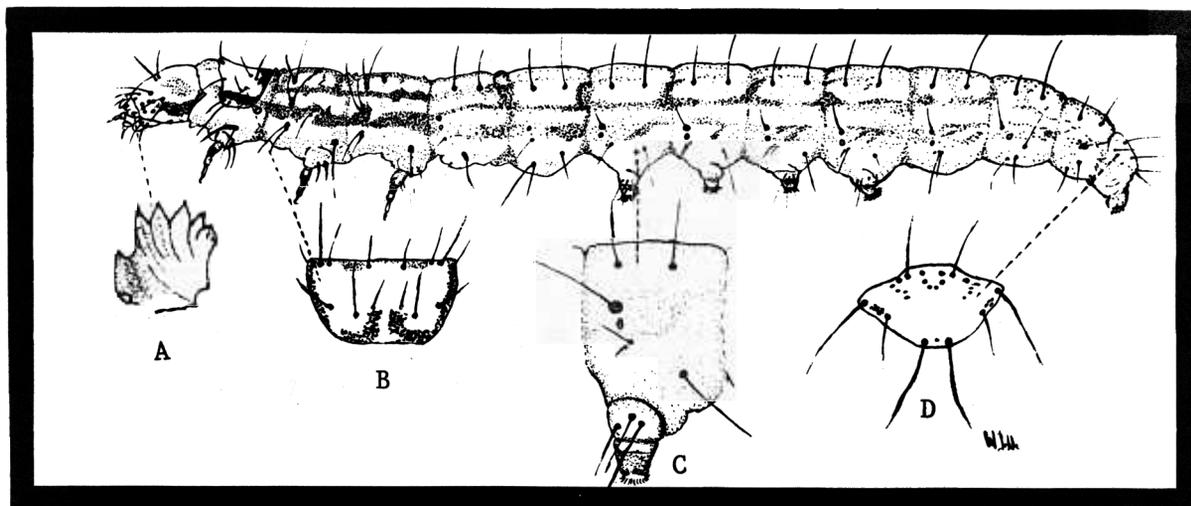


FIG. 2. LARVA. A) ORAL FACE OF RIGHT MANDIBLE; B) DORSAL VIEW OF CERVICAL SHIELD; C) LATERAL VIEW OF THIRD ABDOMINAL SEGMENT; D) ANAL PLATE.

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TAXONOMY: WHEN CLARKE (1943) DESCRIBED H. ALBIZIAE HE CONSIDERED IT TO BE IN THE GLYPHIPTERYGIDAE. LATER, WHEN CLARKE (1968) FOUND H. ANISOCENTRA MEYRICK TO BE THE CORRECT NAME FOR THE MIMOSA WEBWORM, HE RETAINED THE GLYPHIPTERYGID POSITION, LARGELY BECAUSE THE TAXONOMIC STATUS OF THE GENUS WAS UNCLEAR. AN EARLIER VERSION OF THIS CIRCULAR (DEKLE, 1963), AS WELL AS REFERENCES TO THE MOTH BY OTHER WORKERS IN THIS COUNTRY ASSOCIATED THIS SPECIES WITH THE GLYPHIPTERYGIDAE. MEYRICK ORIGINALLY DESCRIBED THE MOTH AS AN YPONOMEUTID, BUT RECENT WORK FOR THE PALEARCTIC (FRIESE, 1960) HAS CLEARLY SHOWN THE DISTINCTION OF HOMADAULA AND SEVERAL OTHER GENERA FORMERLY PLACED IN YPONOMEUTIDAE AND NOW SEPARATED INTO THE DISTINCT FAMILIES PLUTELLIDAE AND ARGYRESTHIDAE. LARVAL CHARACTERS ARE ESPECIALLY HELPFUL IN THE PROPER FAMILY PLACEMENT OF HOMADAULA WITHIN THE YPONOMEUTOIDEA SUPERFAMILY. GLYPHIPTERYGID LARVAE HAVE LONG PROLEGS WITH UNIORDINAL CROCHETS, WHILE HOMADAULA LARVAE HAVE SHORTER PROLEGS WITH BIORDINAL CROCHETS. YPONOMEUTID LARVAE HAVE MULTISERIAL CROCHETS. CLARKE (1968) GAVE A COMPLETE SYNONYMY FOR HOMADAULA AND FOR H. ANISOCENTRA. FOLLOWING FRIESE (1966) THE MIMOSA WEBWORM IS CLASSIFIED IN THE SUBFAMILY GALACTICINAE OF THE PLUTELLIDAE.

BIONOMICS: MIMOSA WEBWORM LARVAE ATTACK ORNAMENTAL MIMOSA, ALBIZIA JULIBRISSIN DURAZZINI. LARVAE ALSO HAVE BEEN FOUND FEEDING ON HONEY LOCUST, GLEDITSIA TRIACANTHOS L., IN MISSISSIPPI (REARED BY D. H. HABECK IN 1972). LARVAE FEED ON THE FOLIAGE OF THE HOST, OFTEN IN SEMI-COMMUNAL MASSES OF SILK WEBBING. LEAFLETS ARE TIED TOGETHER WITH SILK WEBBING BY EACH LARVA. SOMETIMES THE FLOWERS ALSO ARE ATTACKED, AND YOUNG LARVAE ACTUALLY PREFER FLOWERS OVER LEAFLETS. MATURE LARVAE DROP TO THE GROUND VIA SILKEN THREADS AND SEEK PROTECTED PUPATION SITES. THERE ARE SEVERAL BROODS PER YEAR FROM MAY TO SEPTEMBER. CLARKE (1943) ILLUSTRATED THE APPEARANCE OF INFESTED MIMOSA LEAVES. AS FAR AS WE KNOW THE MIMOSA WEBWORM ALSO FEEDS ON MIMOSA IN ITS NATIVE ASIA AND PRESUMABLY WAS INTRODUCED INTO NORTH AMERICA VIA IMPORTED MIMOSA STOCK.

DISTRIBUTION: IN NORTH AMERICA IT RANGES OVER THE ENTIRE EASTERN UNITED STATES SOUTH OF LAKE ERIE, WEST TO THE CENTRAL PLAINS, SOUTH TO THE GULF COAST FROM FLORIDA TO EAST TEXAS. THERE IS ALSO A FURTHER INTRODUCTION IN CALIFORNIA NORTH OF SACRAMENTO. FLORIDA RECORDS ARE ONLY FOR THE NORTHERN COUNTIES CLOSE TO THE GEORGIA AND ALABAMA BORDERS.

ECONOMIC IMPORTANCE: OCCASIONALLY THE LARVAE ARE NUMEROUS ENOUGH TO COMPLETELY DEFOLIATE THE HOST. ALTHOUGH MIMOSA WEBWORM IS NOT USUALLY COMMON IN FLORIDA, A SEVERE OUTBREAK WAS OBSERVED IN 1955 IN JACKSONVILLE. THUS FAR THERE ARE NO FLORIDA RECORDS OF MIMOSA WEBWORM LARVAE ON HONEY LOCUST.

CONTROL: MALATHION, LINDANE, OR ENDOSULFAN WETTABLE POWDERS. FOLLOW DIRECTIONS ON THE CONTAINER.

REFERENCES:

- CLARKE, J. F. G. 1943. A NEW PEST OF ALBIZIA IN THE DISTRICT OF COLUMBIA (LEPIDOPTERA: GLYPHIPTERYGIDAE). PROC. U. S. NAT. MUS. 93(3162):205-208; PL. 21-25.
- CLARKE, J. F. G. 1968. THE CORRECT NAME FOR THE MIMOSA WEBWORM (LEPIDOPTERA: GLYPHIPTERYGIDAE). ANN. ENT. SOC. AMER. 61:228-229.
- DEKLE, G. W. 1963. MIMOSA WEBWORM (HOMADAULA ALBIZIAE CLARKE) (LEPIDOPTERA: GLYPHIPTERYGIDAE). FLA. DEPT. AGR. & CONSUMER SERV., DIV. PLANT INDUSTRY, ENT. CIRC. 14.
- FRIESE, G. 1960. REVISION DER PALAARKTISCHEN YPONOMEUTIDAE UNTER BESONDERER BERUICKSICHTIGUNG DER GENITALIEN (LEPIDOPTERA). BEITR. ENT. (BERLIN) 10:1-131.
- FRIESE, G. 1962. BEITRAG ZUR KENNTNIS DER OSTPALAARKTISCHEN YPONOMEUTIDAE (LEPIDOPTERA). BEITR. ENT. (BERLIN) 12:299-331.
- FRIESE, G. 1966. ERGEBNISSE DER ALBANIEN-EXPEDITION 1961 DES DEUTSCHEN ENTOMOLOGISCHEN INSTITUTES. 52. BEITRAG. LEPIDOPTERA: PLUTELLIDAE. BEITR. ENT. (BERLIN) 16:447-459.
- MATSUMURA, S. 1931. 6000 ILLUSTRATED INSECTS OF JAPAN EMPIRE. TOKYO. 1-1496; 10 PLS.; TEXT FIGS. NOT NUMBERED ((1229-1274); ILLUSTRATED).
- MEYRICK, E. 1922. NEW MICROLEPIDOPTERA OF THE GERMAN ENTOMOLOGICAL INSTITUTE. ENT. MITT. (BERLIN) 11:44-47.